

Key Formulas



BUSINESS
IMPROVEMENT
GROUP

- **Takt Time** = Available Time / Customer Demand
- **Available Time** = Total Time less breaks, meetings etc.
(weekly meetings are amortized across the days (i.e. 25 min meeting per week = 5 min per day))
- **Cycle Time** = Available Time / Customer Demand
- **Number of Operators Required** = Total Labor Time / Cycle Time
- **Total Labor Time** = labor value added plus labor non-value added time
- **Complete Time** = labor value added plus non labor value added plus machine value added plus machine non-value added
- **Capacity** = Available Time / Complete Time
- **Hourly Output** = 3600 sec /hour divided by the cycle time in sec
- **Daily Output** = hourly output times available time in hours
- **Interruptible Work in Process (WIP)** = Cycle time of the machine / cycle time or takt time of the line. If it is non interruptible then double interruptible quantity
- **Kanban sizing** = Total amount needed to cover replenishment time (includes production and delivery) plus safety stock plus yield / container size
- **Number of WIP** = Throughput time / cycle time